

AMENDMENT TO THE CLAIMS

1. (currently amended) A method for making a programmable resistance memory element, comprising:

providing a conductive material;

~~forming a sidewall spacer over said conductive material;~~

forming a second layer over said conductive material;

forming a sidewall surface in said second layer;

forming a third layer over said sidewall surface;

removing a portion of said third layer, a remaining

portion of said third layer being a sidewall spacer;

using said sidewall spacer as a mask, removing a portion of said conductive material to form a raised portion of said conductive material under said spacer; and

forming a programmable resistance material in electrical contact with said raised portion.

2. (currently amended) The method of claim 1, wherein said removing said conductive material step comprises etching said conductive material.

3. (original) The method of claim 2, wherein said etching step comprises anisotropically etching said conductive material.

4. (original) The method of claim 2, wherein said etching step comprises isotropically etching said conductive material.

Claim 5 Canceled

6. (currently amended) The method of claim 5 1, further comprising:

before forming said second layer, forming a first layer over said conductive material and then forming said second layer over said first layer, said second layer then being formed over said first layer.

7. (original) The method of claim 6, further comprising:

after removing said portion of said third layer,  
removing said second layer; and  
removing a portion of said first layer.

8. (currently amended) The method of claim 5 1, wherein said removing said portion of said third layer step comprises anisotropically etching said third layer.

9. (original) The method of claim 6, wherein said removing said portion of said first layer comprises anisotropically etching said first layer.

10. (original) The method of claim 6, wherein said first and third layers are oxides.

11. (currently amended) The method of claim 5 1, wherein said second layer is polysilicon.

12. (original) The method of claim 6, wherein said first and third layers are nitrides.

13. (currently amended) The method of claim 5 1, wherein said second layer is an oxide.

14. (currently amended) The method of claim 1, wherein said ~~sidewall-spacer~~ third layer comprises a material selected from the group consisting of dielectric, semiconductor, and conductor.

15. (currently amended) The method of claim 1, wherein said ~~sidewall-spacer~~ third layer comprises a material selected from the group consisting of oxide and nitride.

16. (currently amended) The method of claim 1, wherein said ~~sidewall-spacer~~ third layer comprises polysilicon.

17. (original) The method of claim 1, wherein said programmable resistance material comprises a phase change material.

18. (original) The method of claim 1, wherein said programmable resistance material comprises a chalcogen element.

19. (new) The method of claim 1, further comprising:

after removing said portion of said third layer and before removing said portion of said conductive material, removing said second layer.

20. (new) The method of claim 1, wherein said forming said third layer comprises conformally depositing said third layer.

21. (new) The method of claim 8, wherein said forming said third layer comprises conformally depositing said third layer.

22. (new) The method of claim 1, wherein said programmable resistance material is formed in electrical contact with a top surface of said raised portion.

23. (new) A method for making a programmable resistance memory element, comprising:

providing a conductive material;

forming a second layer over said conductive material;

forming a sidewall surface in said second layer;

conformally depositing a third layer over said sidewall surface;

anisotropically etching said third layer;

using said third layer as a mask, removing a portion of said conductive material to form a raised portion of said conductive material under said third layer; and

forming a programmable resistance material in electrical contact with said raised portion.

24. (new) The method of claim 23, wherein said removing said conductive material step comprises etching said conductive material.

25. (new) The method of claim 24, wherein said etching step comprises anisotropically etching said conductive material.

26. (new) The method of claim 24, wherein said etching step comprises isotropically etching said conductive material.

27. (new) The method of claim 23, further comprising:  
before forming said second layer, forming a first layer over said conductive material, said second layer then being formed over said first layer.

28. (new) The method of claim 27, further comprising:  
after removing said portion of said third layer,  
removing said second layer; and  
removing a portion of said first layer.

29. (new) The method of claim 28, wherein said removing said portion of said first layer comprises anisotropically etching said first layer.

30. (new) The method of claim 23, wherein said third layer comprises a material selected from the group consisting of oxide and nitride.

31. (new) The method of claim 23, wherein said third layer comprises polysilicon.

32. (new) The method of claim 23, wherein said programmable resistance material comprises a phase change material.

33. (new) The method of claim 23, wherein said programmable resistance material comprises a chalcogen element.